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Filing Date: December 22, 1999

Title: METHOD AND APPARATUS FOR DRIVING DATA PACKETS

Assignee: Intel Corporation

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IN THE CLAIMS

Please amend the claims as follows:

(Original) A method for driver selection, comprising:
 determining a current location identification;
 determining a destination location identification;
 determining a distance between the current location and the destination location;
 enabling a driver strength according to the determined distance.

- 2. (Original) The method of claim 1, wherein determining a current location identification comprises interpreting hard-wired identification location bits of the driver.
- 3. (Original) The method of claim 1, wherein determining a destination location identification comprises reading a plurality of destination location bits appended to a data packet.
- 4. (Original) The method of claim 1, wherein determining the distance between the current location and the destination locations comprises determining a logical subtraction of the destination location bits and the hard-wired identification location bits.
- 5. (Original) The method of claim 4, wherein determining the distance further comprises encoding the logical subtraction result bits in an encoder.
- 6. (Original) The method of claim 1, wherein enabling the driver strength comprises enabling legs of the driver according to the determined distance.
- 7. (Original) A method for configuring driver size in a legged driver system, comprising:

determining a spatial location of a driver; determining a destination location of a packet at the driver;



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determining a distance between the spatial location and the destination location;

setting driver strength according to the determined distance.

- 8. (Original) The method of claim 7, wherein determining a spatial location of a driver comprises interpreting hard-wired location information for the driver.
- 9. (Original) The method of claim 7, wherein determining a destination location of a packet at the driver comprises interpreting destination identification bits in the data packet.
- 10. (Original) The method of claim 7, wherein determining a distance comprises logically subtracting the destination location from the spatial location.
- 11. (Original) The method of claim 7, wherein setting driver strength comprises enabling legs of the driver sufficient to power transfer over a data bus of the packet from the spatial location of the driver to the destination location.
- 12. (Original) A method for forwarding packets in a legged driver, comprising: enabling sufficient legs in the legged driver to power a transfer of a packet from an input location to an output destination.
- 13. (Original) The method of claim 12, wherein enabling sufficient legs comprises:

determining a spatial location of the legged driver;

determining the output destination;

determining a distance from the legged driver to the output destination; and

enabling the legs based on the determined distance.

14. (Original) Apparatus for forwarding data packets, comprising:
a controller operatively connected to receive header information from a
data packet, the controller to generate leg enable bits; and



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a driver having a plurality of legs, the driver operatively connected to receive leg enable bits from the controller and to receive data packets.

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- 15. (Original) The apparatus of claim 14, wherein each of the legs of the driver is identical.
- 16. (Original) The apparatus of claim 14, wherein each of the legs of the driver has a different power.
- 17. (Original) The apparatus of claim 16, wherein each subsequent leg of the driver is twice as powerful as the previous leg.
- 18. (Original) The apparatus of claim 14, wherein the controller comprises:
 - a subtractor having a plurality of inputs connectable to receive data packet header information bits (DID) and spatial location identification bits (LID), the subtractor to generate subtract bits indicative of the distance between the apparatus and a destination location for the data packet; and
 - an encoder to receive the subtract bits and to encode a plurality of enable bits to enable legs of the driver according to the distance between the apparatus and the destination location.
- 19. (Original) The apparatus of claim 18, wherein the encoder comprises:
 - a NOR gate having two inputs connectable to a pair of external signals representative of a difference in a driver location and a destination location, and an output;
 - a NAND gate having two inputs connectable to the pair of external signals, and an output; and
 - an inverter connectable to one of the pair of external signals, the outputs of the NOR gate, NAND gate, and inverter representative of encoder bits indicating a number of driver legs to be enabled.
- 20. (Original) Apparatus for efficient forwarding of data packets, comprising:

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a driver having a plurality of legs selectively enableable to provide different driver powers; and

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- a logical subtractor to receive data packet destination information and driver location information and to generate enable signals representative of a distance between the driver location and the destination location to selectively enable legs of the legged driver.
- 21. (Original) The apparatus of claim 20, and further comprising: an encoder operatively connected between the driver and the subtractor to receive the enable signals and to encode the enable signals to control the driver strength.
- 22. (Original) The apparatus of claim 21, wherein the encoder comprises:
 - a NOR gate having two inputs connectable to a pair of external signals representative of a difference in a driver location and a destination location, and an output;
 - a NAND gate having two inputs connectable to the pair of external signals, and an output; and
 - an inverter connectable to one of the pair of external signals, the outputs of the NOR gate, NAND gate, and inverter representative of encoder bits indicating a number of driver legs to be enabled.

23. (Canceled)

- (Currently Amended) The driver of claim 23, A legged driver, comprising: 24. a plurality of driver legs, the driver legs sequentially enableable by a set of external enable signals to provide multiple driver strengths, wherein each of the plurality of legs is identical.
- 25. (Currently Amended) The driver of claim 23, A legged driver, comprising: a plurality of driver legs, the driver legs sequentially enableable by a set of external enable signals to provide multiple driver strengths, wherein each of the plurality of legs has a different strength.



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26. (Original) A driver encoder, comprising:

a NOR gate having two inputs connectable to a pair of external signals representative of a difference in a driver location and a destination location, and an output;

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a NAND gate having two inputs connectable to the pair of external signals, and an output; and

an inverter connectable to one of the pair of external signals, the outputs of the NOR gate, NAND gate, and inverter representative of encoder bits indicating a number of driver legs to be enabled.

27. (Original) Apparatus for forwarding data packets, comprising:

a driver having a plurality of legs, the driver to provide different power levels to forward a data packet, the power levels dependent upon a distance between the driver and a destination location of the data packet; and

means for determining the distance between the driver and the destination location and to set a driver power level sufficient to forward the data packet.

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